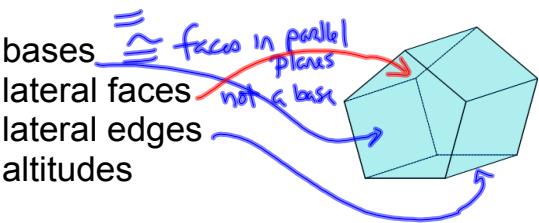
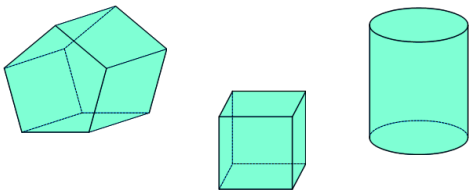


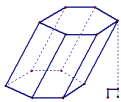
Chapters 12 and 13
Areas and Volume

Prisms and Cylinders 12-3
12-4
13-1



right prism

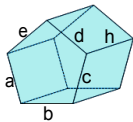
oblique prism
not right



Lateral Area--(L) or (LA)--sum of the areas of the lateral faces

Surface Area--(T) or (TA)--sum of the areas of all of the faces

LA =



$$ah + bh + ch + dh + eh$$
$$h(a + b + c + d + e)$$
$$LA = ph$$

$$LA = ph$$

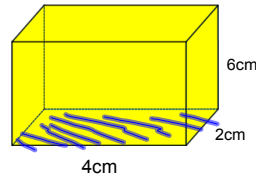
p = perimeter of base

$$TA = LA + 2B$$

B = area of the Base

$$V = Bh$$

ex 1:



$$p = 12\text{cm}$$

$$B = 8\text{cm}^2$$

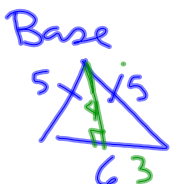
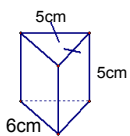
$$LA = 12 \cdot 6 = 72\text{cm}^2$$

Ph

$$TA = 72 + 2(8) = 88\text{cm}^2$$

$$V = 8 \cdot 6 = 48\text{cm}^3$$

ex 2:



$$p = 16\text{cm}$$

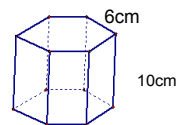
$$B = \frac{1}{2} \cdot 4 \cdot 6 = 12\text{cm}^2$$

$$LA = 16 \cdot 5 = 80\text{cm}^2$$

$$TA = 80 + 2(12) = 104\text{cm}^2$$

$$V = 12 \cdot 5 = 60\text{cm}^3$$

ex 3: Base is regular.



$$p = 36\text{cm}$$

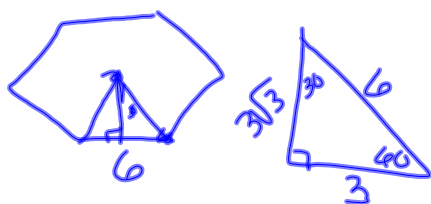
$$B = 54\sqrt{3}\text{cm}^2$$

$$LA = 360\text{cm}^2$$

$$TA = 360 + 2(54\sqrt{3})$$

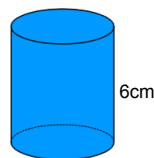
$$547.1\text{cm}^2$$

$$V = 540\sqrt{3}\text{cm}^3$$



$$\frac{1}{2} 3\sqrt{3} \cdot 36 = 54\sqrt{3}$$

ex 4:



$$r = 4 \text{ cm}$$

$$p = 8\pi \text{ cm}$$

$$B = 16\pi \text{ cm}^2$$

$$LA = 8\pi \cdot 6 = 48\pi \text{ cm}^2$$

$$TA = 48\pi + 2(16\pi) = 80\pi \text{ cm}^2$$

$$V = 16\pi \cdot 6 = 96\pi \text{ cm}^3$$

ex 5: Work backwards.

Cylinder

$$V = 768\pi \text{ u}^3$$

$$h = 12 \text{ units}$$

$$V = Bh$$

$$768\pi = B \cdot 12$$

$$64\pi = B$$

$$r = 8 \text{ u}$$

$$C = 16\pi \text{ u}$$

$$LA = 16\pi \cdot 12 = 192\pi \text{ u}^2$$

$$TA = 192\pi + 2(64\pi) = 320\pi \text{ u}^2$$

HW

p651-652 7-10, 16-20

p657 13-16

p 692 7-9, 12

Read Directions! Only asked to find one part.